# EDUCATION

**ABSTRACT**: Over the past century, the US education system facilitated the development of history's greatest economic and military power, and that same system continues to provide adequate human resources for our national security. Troubling signs, however, indicate that additional education reforms are required to ensure the United States retains its competitive edge in this new century. The United States, like many nations, abounds with imaginative opportunities for education and training, but access remains uneven and is too often tied to the distribution of wealth. Despite an interventionist education policy pursued by the Bush administration to redress these inequities, the faltering economy threatens to stymie education reform.

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## PLACES VISITED

**Domestic**:
American Federation of Teachers, Washington, DC
Chelsea Public Schools/Boston University Partnership, Boston, MA
Boston Renaissance Charter School, Boston, MA
Educational Testing Service, Washington, DC
Focus HOPE, Detroit, MI
Francis Parker Charter School, Devens, MA
General Motors University, Detroit, MI
Harvard Graduate School of Education, Cambridge, MA
Houghton-Mifflin, Inc., Boston, MA
Maryland State Department of Education, Baltimore, MD
Minuteman Regional High School, Lexington, MA
Montgomery County Public Schools, Rockville, MD
Northern Essex Community College, Haverhill, MA
Potomac Job Corps Center, Washington, DC
Raytheon Corporation, Lexington, MA
Superintendent, District of Columbia Public Schools
Thomas Jefferson High School for Science & Technology, Alexandria, VA
US Department of Education, Washington, DC
US House of Representatives, Committee on Education and the Workforce, Washington, DC
World Bank Human Development Network, Washington, DC

**International**:
Department for Education and Skills, London, England
Deutsche Bank, Frankfurt, Germany
European Aeronautic Defense Systems, Ulm, Germany
Enfield County School, Enfield, England
Goethe Gymnasium, Frankfurt, Germany
House of Commons, Parliamentary Undersecretary State for Education, England
Ministry of Science, Research, and Art, Stuttgart, Germany
Institute for the Advancement of University Learning, Oxford University, Oxford, England
Qualifications and Curriculum Authority, London, England
Teacher Training Agency, London, England

**INTRODUCTION:**

An educated citizenry and a well-trained workforce are essential for the prosperity of our nation and the maintenance of our national security. Two decades have now passed, however, since the landmark government report, *A Nation at Risk*, warned, "the education foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people."[1] The document marks the beginning of an ongoing education reform movement that has resulted in improvements in many areas. Nevertheless, numerous concerns remain with the quality of education in the United States.

Unlike the education systems in most other countries, education in the United States is a complex, decentralized system with most of the responsibility devolving, on the basis of the Constitution, to the local authorities. As a result, there is considerable tension over the role of the federal government--at a time when state budgets are in crisis and the Bush administration seeks a greater role in the imposition of achievement standards. This year is notable as states attempt to comply with the administration's key education initiative, the *No Child Left Behind Act* (NCLB). Reflecting increasing budgetary constraints, the seminar also observed a growing pattern of private-public partnerships, as well as the commercialization of education, with marketing schemes and outreach programs supplementing traditional funding sources.

The purpose of the Education Industry Study was to conduct an executive level assessment of the current organization and quality of the US education and training system, identify possible national security implications and offer recommendations or strategies to improve key aspects of this system. To conduct the assessment, the seminar hosted distinguished experts from various schools and organizations for discussions of issues such as education reform, teacher qualifications and retention, and comparative international education systems. The seminar also visited with federal, state and local government representatives involved in policy development and resource allocation, and business leaders and professors who described requirements of graduates and employees. Additionally, the seminar visited several alternative forms of education and training, as well as comparative programs in Germany and England. Each member of the seminar also conducted an in-depth individual research project about an issue of interest and importance—many of which are summarized in this paper. In fulfillment of this requirement, four members conducted an analysis of the textbook industry for the Department of Defense Education Activity.

Our survey revealed that the United States abounds with imaginative opportunities for education and training. Sadly, though, access is uneven and too often is associated with the distribution of wealth in this nation. While the reality may not live up to our society's lofty goals and values, the dedication and ingenuity of so many individuals affiliated with education bodes well for our nation's future. Numerous ongoing challenges--such as the issue of teacher preparation and retention, the need to integrate information technologies in the curricula, the ever-expanding growth in knowledge which needs to be imparted to our children, and the critical shortages of skills in this nation as disparate as mathematicians and foreign language linguists—are being addressed daily by educators, the unsung heroes. Heroes they are, because our nation's future is being built by their tireless efforts to advance that most vital of our resources—our children. In the increasingly competitive and interdependent world in which we live, the struggle for developing the minds of the next generation is one this nation cannot afford to lose.

**THE INDUSTRY DEFINED:**

The education system in the United States may seem to be, and in some respects is, a chaotic interaction of federal, state and local governments trying to implement sometimes incompatible policies and processes with little central direction. This situation is brought about by the wording of the Tenth Amendment to the Constitution of the United States, which states: "The powers not delegated to the United States by the Constitution, nor prohibited to it by the States, are reserved to the states respectively, or to the people." Because education is not specifically delineated in the wording of the Constitution, the Tenth Amendment applies, making the provision of an education for the citizenry a

state responsibility. This leaves the United States with a relatively weak federal Department of Education that provides little centralized direction and little funding--less than seven percent of a typical school system's budget.[2] This system has also resulted in fifty state departments of education that actually administer and fund, in conjunction with local jurisdictions, the nation's education system

By any measurement, education in the United States and, by extension, the rest of the world, is an enormous industry which can be categorized into three reasonably distinct sectors: the traditional sector, consisting of the kindergarten through grade twelve (K-12) schools and higher education institutions; the transitional or 'school-to-work' sector; and the employer-sponsored sector. Annual spending on education in the United States alone totals almost $700 billion, or 7.1 percent of the US gross domestic product.[3] Of that total, $450 billion is contributed by state and local governments, which represents almost one-third of the overall spending at this level,[4] as compared with the total US Department of Education budget of roughly $50 billion out of the $2.1 trillion projected federal budget in FY 2004.[5]

The traditional school sector in the US consists of over 119,000 public and private elementary and secondary schools[6] divided into 14,900 public school districts[7] with an enrollment of 53 million students[8]. There are an additional 4,000 post-secondary degree granting institutions, two- and four-year colleges and universities,[9] with an enrollment of 15.3 million students.[10] This is by far the largest sector of the education industry.

The transitional sector is categorized by vocational and technical training that occurs outside of the traditional school environment. Two excellent examples of such institutions that provide this type of training are Project Focus Hope located in Detroit, Michigan and the Federal Job Corps program managed by the Department of Labor. Both of these organizations provide the opportunity for students to acquire a skill, which allows immediate employment upon graduation, as well as a potential reentry point to traditional post-secondary education in certain cases.

Employer-sponsored training includes a wide variety of programs, such as training for line employees to acquire and improve basic administrative skills, advanced technical training for the white-collar workforce, as well as advanced leadership and management schooling for the current and future senior leadership for corporations.

**CURRENT CONDITION:**

Current trends in American education show mixed achievement results. Statistics at the fourth grade, for example, reflect that while 63 percent of students are reading at or above grade level, 37 percent are not.[11] Research indicates that students who fail to read at grade level by the fourth grade are the most likely to be left behind in academic performance. After the fourth grade, students should be reading to learn, rather than learning to read.

The negative indicators continue through high school. A significant number of high school students are not performing well in mathematics and science. Approximately 35 percent of twelfth graders score below grade level in mathematics, and 47 percent score below grade level in science. This is a critical issue in the new economy because 80 percent of all jobs now require some technical training or post-secondary education. This is one of the reasons why forecasters project a potential skilled labor shortage of over 10 million by the year 2020.[12]

In higher education, 33 percent of college freshman now take a remedial math course, and 25 percent take a remedial English course. This is a clear sign that there is a standards issue at the K-12 level. On a positive note, the United States leads the world in the number of college age students who

attend college. More than 60 percent of high school graduates enroll in some form of higher education. Additionally, 50 percent of all students who enter college earn a bachelors degree by age 29, which also leads the rest of the world.[13]

There are numerous possible causes for the negative trends in the US education system. Each cause can be associated with varying degrees of statistical correlation, to include the breakdown of the family, minority issues, student mobility (frequent transfers between districts), students lacking English language skills, unqualified teachers and insufficient school funding. The most commonly mentioned cause that has shown a direct negative correlation to student performance is whether the student is living in poverty. While there are some students who rise above their economically disadvantaged backgrounds and succeed in college, poverty represents a significant challenge to academic success.[14]

According to the analyses of the National Assessment of Educational Progress (NAEP) report data in 2000, fourth-graders in high poverty schools had disturbingly lower achievement scores in mathematics than their peers in low poverty schools. The average score of students in high poverty schools was in the bottom third overall, while the average score of students in low poverty schools was in the top third of the scores. The report also presents data that suggest differences in the turnover rates of teachers in low and high poverty schools. One or more teachers left before the end of the school year in 35 percent of the high poverty schools participating in the NAEP fourth grade mathematics assessment, compared to only 6 percent in low poverty schools.[15]

A growing and increasingly diverse population of elementary and secondary students continues to heighten the challenge of providing high-quality instruction and equal educational opportunities to all students. In addition, school absences among middle and high school students, and the declining academic interest of high school seniors are just a few of the challenges that educators face. At the post-secondary level, institutions must prepare for the record numbers of enrollments expected over the next decade.[16]

Increasingly policymakers, employers, educators, and parents agree that many high school graduates are simply unprepared for success either in higher education or in the workplace in this globally competitive economy of the 21st century. A more interventionist federal administration hopes to turn around these negative trends through the implementation of NCLB signed into law in 2002. This new initiative is the strongest effort to date to transform the education industry. The NCLB seeks: to push schools to show annual improvements in student performance; to ensure teachers are qualified to teach; states have the resources and flexibility to use federal funds to achieve their priorities; and to empower parents with information and more choices for their children.[17]

**CHALLENGES:**

In many countries, such as England, national governments make most of the decisions about education. In the United States, the federal government does have a role in education, but as mentioned previously, education direction and funding comes primarily from the state and local governments. Although many people voice initial support for what their local schools are doing, the prevailing societal view is that public education, as a whole, is in need of reform. Most Americans, however, are in disagreement on what the problem is or which reform strategies are most promising.

For many, the right reform strategy hinges on the successful implementation of President Bush's NCLB that, in part, stresses more reading and math testing, and school accountability. This reform

strategy imposes higher state knowledge standards for students and often requires students to take 'high-stakes' tests, which might be used to determine high school graduation. Other educators claim that the current problems could be solved through better recruiting and retaining of qualified teachers in grades K-12. Yet, other reformers advocate that the problem is a matter of inadequate funding for public schools and that particularly poor urban and rural school districts simply cannot raise the additional funds. These, then, represent some of the most frequently mentioned challenges to reform faced by the education industry today. The following paragraphs further elaborate on these compelling issues:

**Implementation of 'No Child Left Behind' Act**

In January 2002, President Bush signed NCLB into law. This new law represents the most sweeping changes to the *Elementary and Secondary Education Act* since it was enacted in 1965. The federal role has traditionally focused on providing for special education needs, school meal programs for the impoverished, or monies for financing higher education and research. By requiring elementary and secondary schools to explain their success in terms of what each student accomplishes, the federal government is greatly expanding its role in K-12 education. The law includes the President's four basic education reform principles: stronger accountability for results; increased flexibility and local control; expanded options for parents; and an emphasis on teaching methods that have been proven to work. These ideals are the foundation for many of the changes citizens might notice in local schools during the next few years.[18]

One of the key goals of NCLB is to provide for greater access for all children to receive a quality education regardless of income or background. Recall that more than one-third of all fourth graders cannot read at the fourth grade level. One telling statistic is that 68% of those who cannot read well are minority children who live in poverty.[19] Obviously, earlier federal programs failed to remedy this problem. NCLB ties federal funding to performance, but has left it to the states to determine the standards to be used for measuring success. This aspect of the bill has raised considerable controversy, which will be addressed later in the paper.

The greatest challenge, however, to implementing NCLB is a lack of adequate funding to meet all of the mandated requirements. Many states are facing budget crises, and funding the development, administration and reporting of new standardized tests, in addition to providing remedial programs for under performing children are enormous tasks under current conditions. Moreover, it is unclear whether states will be able to fund the additional costs of recruiting and training of 'qualified' teachers in core academic subjects, or strengthen paraprofessionals' requirements, which now require two years of postsecondary education.[20]

**Standards**

National debate on the merits of standards, testing, and education accountability is at the forefront of today's educational reform movement. States have embarked on aggressive reforms centered on high-stakes standardized testing. This shift in emphasis raises numerous questions. Have states leaned too far in the direction of standardized testing? Are educators now largely teaching children a knowledge base, comprised mainly of memorization of rote facts, to pass a standardized test at the expense of a well rounded, interactive, and engaging curriculum? On the other hand, do standardized tests force educators to truly try to reach students who have been largely left behind? Both arguments have merit and are being presented aggressively before not only a local, but also a state and national audience.

Numerous challenges confront standards-based assessment. The first challenge is the lack of consensus among state and local entities on what students should learn and what schools should teach. The lack of strong, clear, and explicit standards poses another challenge. Without explicit standards, parents, teachers, and school districts will decide individually how best to teach subject content, and this leads to inconsistency. This also places an undue burden on teachers: "...as we hold students and teachers more accountable, we also need to provide them with opportunities to teach better and learn more, which means greater training for teachers and additional time for students. It makes no sense to demand more, without helping people to meet those demands."[21]

Lastly, standards are not consistently aligned with assessments and instruction. The Education Commission of the States recommends that, "Ideally states need to develop standards first, and then follow with design of assessments that measure the standards."[22]

**Teacher Recruitment and Retention**

Effective teacher recruitment and retention is critical to maintaining the US education system. A number of factors, including the prospect of increasing enrollments and a rapidly aging teacher population, fuels the growing need for recruiting teachers. The high numbers of teachers leaving the profession due to low pay and poor working conditions compound these factors.[23] The United States faces a major teacher shortage, especially in large urban school districts, and particularly in the growing fields of bilingual and special education.

High poverty urban school districts face the additional challenge of boosting not only teacher numbers but also teacher quality. Studies show a direct correlation between students taught by the most qualified and effective teachers and students' achievement. Many urban districts, however, are compelled to employ 'non-credentialed' teachers because they cannot find qualified educators.[24] These districts also fill many positions with educators who are teaching a subject outside of their field of expertise. Therefore, the need for recruiting high-quality teachers becomes most urgent in city school districts. These districts have over 40 percent of the non-native English-speaking students in the country, 75 percent of the country's minority students and 40 percent of the nation's low-income students.[25] Inner-city schools also enroll a disproportionate number of students with special needs. The demand for constant recruiting is not only driven by these factors but also by high attrition rates among new teachers. Consequently, urban school districts must now develop incentives that will attract and retain qualified teachers for their hard-to-staff schools and for subject areas where educators are in short supply.

The main reason behind the teacher shortage problem is low teacher retention. Approximately 14 percent of new teachers do not return for a second year of teaching. The attrition rises to 33 percent after three years of teaching and up to 46 percent after five years of teaching.[26] Other statistics show that 60 percent of teachers who have entered the profession through the alternative certification route leave the profession within three years.[27] The effect of such attrition on children's development has been well documented. Studies have shown that students learn best from experienced teachers, and too many teachers are not staying long enough to be considered experienced.[28] The acute problem of teacher retention is discussed in more detail in an essay at the end of the paper.

**School Funding**

One of the most difficult issues being facing by any school administrator recently is how to balance the institution's budget during this period of economic slowdown. While the US Department of Education's FY 2003 budget and 2004 budget request are the largest in history,[29] the federal contribution to the average K-12 school district's budget is only 7 percent.[30] The bulk of the funding comes from state (fifty percent) and local sources (43 percent).[31] Since most state and local governments are required to balance their budgets, especially at the local level, educational spending may be the largest single line item in a budget, and balancing the budget by reducing educational spending is occurring nation-wide. For example, the Boston Public School system has already informed its principals that there will be a 10 percent reduction in available financing for next year.

In higher education, a different dynamic applies. At public institutions where 40 percent of their funding comes from the state budget, many of the same issues apply, but there is the added flexibility of increasing tuition to cover shortfalls. Unfortunately, only 16 percent of a state college or university's funding comes from tuition, so any reduction in state funding would necessitate significant proportional tuition increases to close the gap.[32] At private colleges and universities, 40 percent of the school's income is from tuition and fees, and less than 4 percent comes from state and local sources. Thus, the current state and local budget difficulties are felt less severely and short falls can be recovered with smaller percentage increases in tuition. [33]

The downturn in the economy has had a significant impact on the education industry as a whole. This is evident in delays in the timeline for textbook replacement, discontinuation of 'non-core' courses and an overall increase in the class sizes. When the economy begins to recover, some of the fiscal pressures on educational institutions should lessen, however, funding for education will remain a significant challenge for all sectors of the industry on a long-term basis.

**OUTLOOK:**

The government attempts to provide the people of this nation with equal opportunity and access to education in the form of a 'public good', which benefits the whole of our society and the individual citizen.[34] An educated citizen is able to attain and provide the skills and knowledge required for the 21st century labor market, which in turn, drives our nation's productivity and economic growth. Education is a pillar of our democracy. Human skills and talents are defined as an element of our national power that we must safeguard by improving the overall quality of our education system.[35]

The most significant influence on the elementary and secondary education industry in the near term will be NCLB. The goal of NCLB is admirable – to bring all racial, ethnic, income and other groups up to proficient levels of performance within 12 years. The road ahead, however, will not be an easy one for the implementation of NCLB. Two problematic areas for the states and local school districts will be demonstrating 'adequate yearly progress' (AYP) for each student and funding the new mandates. The AYP is based on a state's established standards and the current and past yearly assessment tests. Some states are now lowering their standards so that they can "avoid the penalties that the federal law imposes on schools whose student fare poorly on standardized tests."[36] Texas and Michigan, for example, are two states that have lowered their standards and Colorado has changed its grading system to reduce the number of 'failing' schools.[37] Concerns that more states will 'game' the system to avoid penalties continue to grow.

Implementing the act is expensive, especially in view of the limited funding provided by the federal government. In February 2003, the Secretary of Education announced an additional 17 million dollars in new grants to fund projects that "will help improve the quality of assessment instruments and systems used by states."[38] In the summer of 2002, grants totaling $370 million were also provided to the states for assessment development. President Bush has requested an additional $387 million for assessments in FY 2003 and $390 million for FY 2004. By the end of FY 2004, states and other entities will have received nearly $1.2 billion in support for assessments.[39] Despite these additional funds, some states have considered non-participation in NCLB due to the high implementation costs and insufficient federal funding.

Within this dismal context, what, then, are the prospects for increasing student achievement for all students? Future amendments to NCLB must address the issues of student mobility and English as a second language. Schools with high student mobility rates, as well as those with large populations of immigrant students with English as a second language, are doomed to fail in meeting the AYP. While the accountability standards of NCLB should not be lowered, flexibility needs to be built in for those schools with special circumstances. Perhaps selected students can be excluded from accountability for a set period of time to provide the school a reasonable opportunity to show AYP. As an example of this problem, the Montgomery County, Maryland school district has students with more than 120 languages represented as their first languages (other than English).[40] In Chelsea, Massachusetts, 83 percent of the students belong to minority groups, many recent immigrants, and nearly two-thirds speak English as a second language in their homes. The Chelsea school district is also challenged by a high student mobility rate of 36 percent, thus making it difficult to show academic progress.[41]

On a more positive note, however, there is considerable hope that upon full implementation of NCLB, the achievement gap between impoverished children and wealthier children will decrease considerably. There is also the expectation that more parents will become actively involved in their children's education process as they monitor their children's school report card in local media.

The current downturn in the economy is negatively affecting the education industry as a whole, especially at the K-12 level. NCLB is forcing state and local governments to realign their education funding priorities to meet federal performance requirements. Consequently, state and local governments are struggling to fund other public school requirements amidst budget cuts. Some districts are reducing the number of classroom days while others are charging for bus transportation services as a way of increasing their available funds. Funding for the education system will remain a significant challenge for all sectors of the industry on a long-term basis.

Challenges in the higher education market include projections that show an increase in enrollments as well as degrees conferred at both two-year institutions (community colleges) and four-year institutions. According to the National Center for Educational Statistics, enrollment in public two-year institutions will increase by 11 percent between the years 2000 and 2012, and in private two-year institutions by 20 percent, for 650,000 more students. Enrollments in public four-year institutions will increase by 19 percent and in private four-year institutions by 16 percent, for 1.6 million more students during the same timeframe.[42] Accordingly, degree conferral will also increase. Associate degrees are projected to increase by 18 percent (approximately 104,000 degrees) between the years 2000 and 2012. Bachelor degree conferrals are projected to increase by 16 percent (approximately 200,000 degrees).[43]

To provide some budgetary relief, institutions of higher education are moving towards a more business-like model in their operations. For example, more dormitories and dining facilities will be

outsourced. Information technology (IT) will increasingly be relied upon to support the education process through online testing and on-line courses. As stated above, attendance at community colleges will increase as more individuals return to the educational system to seek opportunities to further their job skills or acquire new ones.

Finally, the fastest growing sector in education is the commercial sector, most notably in employer-sponsored training. Companies are currently spending $60 billion on training.[44] Not only does training improve worker productivity, but it also increases morale and motivates employees to stay with the company. With a predicted skilled labor shortfall of over ten million by 2020, companies are increasingly using education and training to maintain a competitive edge in the market.

A pattern of private-public partnerships and the commercialization of education, with marketing schemes and outreach programs help support traditional funding sources. Corporate sponsorship at universities as well as in high schools is on the rise. For example, many schools rely on the revenue generated by vending machines in the schools now. This sponsorship also takes the form of 'in-kind' gifts. For example, technology firms sponsor some of the technology labs at the Thomas Jefferson High School for Science and Technology in Fairfax County, Virginia.[45] Likewise**,** school alumni continue to serve as a source of funds. The Alumni Association of the Boston Latin School donated over $3 million for a new library.[46] These partnerships provide relief for some of the financial burdens of these institutions. As an example the commercialization of education in the extreme, two students in San Diego are funding their college education by wearing corporate sponsors' logos, decorating their dorm rooms with corporate logos, and such similar activities.[47]

Information technology has arrived in the education industry and is here to stay. Its implementation, however, is uneven. IT is being integrated at all levels of education. New education management organizations, such as the University of Phoenix, are attempting to span the range of traditional university functions.[48] Large corporations are ramping up their own e-learning initiatives by adding computer-based training, web-conferencing and web-based training to their educational and training programs. More sophisticated organizations even use learning management systems to support registration, tracking, and reporting of employee training.[49] Also known as synchronous on-line training, virtual classrooms deliver on-line through streaming video or web conferencing tools. Unlike web-based training or computer-based training, which can be taken at the student's leisure, this system sets appointed times and uses live instructors for the virtual classroom. While many K-12 schools use IT today, it is not uniformly integrated. Likewise, teacher training on the use of IT in the classroom is uneven in application.

**GOVERNMENT--GOALS AND ROLE:**

The Constitution leaves education in the United States as primarily a state and local responsibility. That does not imply, however, that the federal government cannot have a significant influence over the direction of education. Indeed, as proportionally small as the federal funding may be, few states turn down those additional monies.

These federal educational funds are provided to the states through the Department of Education, the Department of Health and Human Services' Head Start Program, and the Department of Agriculture's School Lunch Program. The Department of Education budget of $50 billion represents just 2.7 percent of the federal budget. In order to accomplish the Department of Education mission of ensuring equal opportunity and access to education, and the promotion of educational excellence throughout the nation, the Department administers programs that cover every area of education from pre-school through postdoctoral research. Further, the Department of Education assumes a leadership

role in the national dialogue over how to improve the education system for all students.[50] With the passage of NCLB, the Department of Education and the Department of Health and Human Services have been directed to ensure their federal education funds get results. Federal education funding will increasingly be tied to demonstrated student achievement.

President Bush has made education his premier domestic policy priority. The President's top seven education reform initiatives for 2003 are: implementing NCLB; strengthening early childhood education through the *Early Childhood Initiative*; improving special education through the reauthorization and reform of the *Disabilities Education Act*; improving quality and accountability in higher education through the reauthorization and reform of the *Higher Education Act*; supporting America's teachers through increases in the Federal loan forgiveness program; increasing support for America's minority-serving institutions; and improving results in vocational education through the reauthorization and reform of the *Carl D. Perkins Vocational and Technical Education Act*.[51] These initiatives set the course for the Department of Education and serve as the road map for the federal government's involvement with public education in the United States.

The proposed FY 2004 federal education budget includes the following:

**Implementing the NCLB**. The administration is requesting $12.4 billion for Title I Grants to Local Education Agencies to help states and local school districts turn around low-performing schools, improve teacher quality, and increase choices for parents. This request represents a 41 percent increase in Title I Grants since the passage of NCLB. Additionally, $390 million have been added to fund State Assessment Grants which will help states develop and implement the annual math and reading assessments in grades three through eight as mandated by the NCLB.[52]

**Early Childhood Initiative.** More than $14 billion are programmed to help families, particularly low income families, and place their children in pre-kindergarten care. As part of this initiative, the Department of Health and Human Services is implementing a new accountability system that assesses standards of learning in early literacy, language and numeral skills.[53]

**Reading First**. The President is requesting $1.05 billion for Reading First State Grants and $100 million for Early Reading First, two programs that support early intervention programs to improve the reading skills of young children.[54]

**More Choices for Parents**. The Bush Administration also seeks $75 million for a controversial new Choice Incentive Fund that would make competitive awards to states, school districts, and community-based non-profit organizations aimed at providing large numbers of students with expanded school choice opportunities. Additionally, the budget request includes $25 million for Voluntary Public School Choice grants to encourage states to expand school choice programs and $320 million for a program to help charter schools pay for school facilities.

**Flexible funding for States and School Districts**. NCLB allows states to combine Federal program dollars to pursue their own strategies for raising student achievement. In return for this flexibility, states must demonstrate annual progress in ensuring that all teachers in core academic subjects are highly qualified.

**Special Education and Vocational Rehabilitation**. The budget provides $9.5 billion in grants to the states for children with disabilities. This represents a $2.7 billion increase for Vocational Rehabilitation

State Grants, which will help state vocational rehabilitation agencies expand the number of individuals with disabilities in the labor force.

**Vocational and Adult Education**. The administration proposes fundamental changes to vocational and adult education programs. For vocational education, a stronger emphasis will be placed on accountability and flexibility. For adult education programs, federal resources will be targeted on educational approaches that have proven effective in increasing reading and math skills.

**Postsecondary Education**. The administration proposes increasing student aid by 5 percent over the 2003 budget for a total of $62 billion. This proposal includes a $1.9 billion increase for the Pell Grant program. Highly qualified math, science and special education teachers serving in low-income communities would have their level of student loan forgiveness increase from $5,000 to $17,500.

In the final analysis, the current goals and role of government in the United States public education system will be determined by the following two factors:

First, despite a 47 percent increase in federal education funds since FY 2000, state and local school boards are facing severe cutbacks. Recalling that the federal government only provides seven percent of all education funding, the responsibility for funding public education is still primarily a state and local government responsibility. With most states facing large deficits and tough budget decisions, the funding required to successfully implement education reform initiatives may not be available to the local school districts responsible for implementing NLCB-mandated programs. Therefore, despite significant increases in federal spending on education, the ability of state and local governments to set education priorities and increase revenue will be the keys to the successful implementation of the Bush Administration's education reform goals.

Second, the Bush Administration's effort to increase federal oversight of the public education system through initiatives mandated in NCLB will require the full support of state and local governments. This increased federal oversight of state and local public education programs has sparked considerable debate in many state and local governments. The outcome of these debates will determine the fate of NCLB.

**CONCLUSION:**

The US education system must be able to produce and support an innovative and skilled citizenry. This is especially true in the nation's future national defense since the armed forces' war fighting capabilities are structured on the effective utilization of cutting edge, new technology, including rapidly changing information systems, and will only become more reliant on the effective exploitation of technology in the twenty-first century. A sound educational system can provide the manpower necessary to ensure that the United States retains this military edge. The US economy, already well into a transition from a predominantly manufacturing-based to a knowledge-based economy, is dependent on educational quality. Therefore, education must support the development of an innovative and technically competent labor force.

The current public education system, while flawed and under resourced, is fundamentally sound and can be adapted to meet the challenges above. To do so, however, will require reforms that are focused not on the system's problems but on its desired product, which is an educated citizenry. Altering the decentralized approach to US education is neither necessary nor politically feasible currently. Although the federal government provides relatively little funding for US education, the influence of Washington is increasingly pervasive. The requirements mandated by NCLB may indeed ensure greater opportunity and access to quality education for those children who have historically been

left behind in the American education system. This legislation will need to be reworked, however, to provide for greater flexibility in accountability standards. This flexibility must take into account local conditions and special circumstances.

As all levels of government must operate in an environment of fiscal austerity, new education initiatives should be carefully targeted to achieve gains in key areas. These initiatives should include: the elevation of teacher qualifications along with creative efforts to increase retention; improvement of the core skills of reading, math, science and foreign languages at the primary level; and the establishment of results-based administration standards which reduce the workload of teachers. The NCLB's many reform initiatives will increase federal oversight because of its principle of accountability through test results. If adequately funded and implemented considering local conditions, NCLB can be a significant and positive step toward attaining the goal of improving the US educational system.

In the final analysis, consider education within in a national security context. Just a few months before the September 11th terrorist attacks, the US Commission on National Security for the 21st Century issued the so-called 'Hart-Rudman Report,' which stated:

> "Americans are living off the economic and security benefits of the last three generations' investments in science and education, but we are now consuming that capital. In this commission's view, the inadequacies of our systems of research and education pose a greater threat to US national security over the next quarter century than any potential conventional war we might imagine. American national leadership must understand these deficiencies as threats to national security. If we do not invest heavily and wisely in rebuilding these two core strengths, America will be incapable of maintaining its global position long into the 21st century."[55]

The education system in this country worked well during the past century; however, past success does not ensure the future. The US government at all levels has an obligation to the American people to ensure that the children of today are adequately prepared for the global challenges of tomorrow.

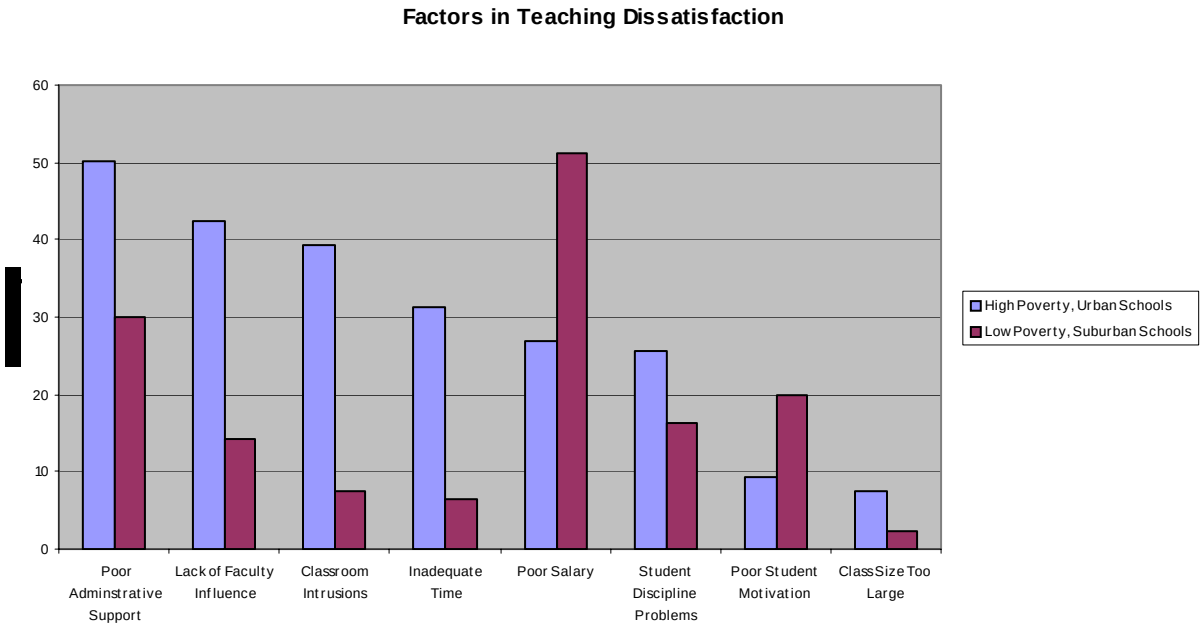
**ADDITIONAL ESSAYS:**

**Teacher Retention**

**The Challenge:** The education of the today's children is vitally important to the national security of the United States' future. These children will be our future leaders and they deserve the best education we can give them. Recent studies indicate "teaching quality is the single most important factor influencing student achievement, moving students well beyond family backgrounds limitations."[56] Other studies have also shown that "it takes teachers several years to develop the skills needed to reach children with different learning styles."[57] The implication of these studies is that we should want our children to be taught by experienced professional teachers. Unfortunately, many children today do not have this luxury. After the first year of teaching, 14% of new teachers will not return for a second year of teaching. That percentage goes up to 33% after three years of teaching and up to 46% after five years of teaching.[58] Other statistics show that teachers who have entered the profession through the alternative certification route leave the profession at about the 60% rate within three years.[59] These teachers are leaving the field before they become fully experienced and are performing effectively. This turnover and constant influx of new teachers negatively affect the education of our children.

**Why Don't Teachers Stay?** Numerous studies have been conducted to ask this important question. The results of the 1994-1995 National Center for Education Statistics' (NCES) Teacher Follow-up Survey (TFS) shows job dissatisfaction and the pursuit of other jobs account for almost half of the turnovers for both high poverty urban and low poverty suburban schools and together is the number one

cause for leaving the teaching profession.




SOURCE: National Commission on Teaching and America's Future, No Dream Denied – A Pledge to America's Children (Washington, DC, January 2003), p. 27.

The TFS asked the teachers who left the profession because of dissatisfaction "why." The chart on the preceding page indicates their primary reasons for the leaving. While poor salary is the number one reason for leaving a high poverty urban school, poor administration support is the number one reason for leaving a low poverty suburban.

Another study on teacher attrition and retention in seven Virginia school divisions confirmed the above reasons. The study encompassed teachers in urban, suburban, and rural areas. Teachers who remained in the profession believed that their colleagues left the profession due to inadequate compensation, poor administration, insufficient time to meet job requirements such as planning lessons to grading papers, to participating in mandatory training to phoning parents to completing paperwork required by the administration, large classroom sizes, and the Virginia Standards of Learning. Also mentioned but not at the frequency of the above were the issues surrounding lack of parental support and student discipline and attitude problems. When the teachers who left the profession were asked "why," they could not pinpoint one single reason. Most cited at least two reasons with the most common reasons being "lack of administrative support, hectic/stressful schedules, insufficient salary and no opportunities for job sharing/childrearing."[60] Other reasons mentioned often for leaving were "pressures related to the Virginia Stands of Learning (SOL), student discipline, professional development that did not relate to individual needs and lack of flexibility provided in teachers' schedules."[61]

**Solutions:** Schools and school districts need to take a careful look at their programs to see where improvements can be made. Three areas in particular should be addressed – what are we doing to keep our novice teachers teaching, how can we improve compensation, and how can we improve our administrative support.

Just because an individual has graduated with a degree in education or has completed an alternative certification program doesn't mean that he or she is fully prepared and ready for the challenges of being a teacher. A good induction program coupled with a mentoring program has proven to be very successful in retaining novice teachers. New teachers should be paired with a mentor, an experienced teacher of the same subject or grade. Mentors should provide regular feedback and advice

on teaching from lesson planning to dealing with student discipline issues to teaching methodology to working with parents. Some school districts which have implemented a mentoring program which grants release time to mentors to coach their assigned teachers have experienced significant drops in attritions – from levels exceeding 30 percent to rates of under five percent.[62] New teachers have also reported that collaborations with other new teachers have helped them in the first years of teaching by offering support and advice on lessons they have already learned. The American Federation of Teachers has also recommended that new teachers be given lighter teaching loads in their first year.[63] New teachers need to be guided in their first year of teaching. With this special support, beginning teachers "not only stay in the profession at higher rates, they also become competent more quickly than those who must learn by trial and error."[64]

Another area which cannot be overlooked is that of salary. Although we say we value education, that fact is not obvious in the way we pay our teachers. In 2001, the average teacher salary was $43,250; however, 36 states have averages below this with South Dakota ranking at the bottom with just $30,265.[65] Most teachers find they could make a better salary and provide better for their families by taking a job outside the teaching profession. Many teachers believe that a better system of pay should be implemented to include such things as performance, additional duty, and incentive pays. Since low pay is a significant issue for those leaving high poverty urban schools, states should examine how they can make pay more equitable for these schools as they distribute state dollars to the schools. As an example, Connecticut has established a minimum beginning salary for its teachers and provides funds to its districts on an equalizing basis, so that minimum salary is attained.[66]

Finally, numerous examples exist regarding the issue of administrative support. Schools and their district need to support their teachers in all ways possible. Teachers should be able to count on their administration to support them in their decisions. Teachers should not have to pay for classroom supplies. Appropriate professional development should be offered to all teachers. One complaint has been that professional development is often treated as a one size fits all and yet that is usually not the case. Teachers should be provided an adequate curriculum from which to develop lesson plans. One study of first and second year teachers in Massachusetts showed that most were not provided a curriculum or just a vague curriculum from which to teach. Without mentors or the help from other faculty, these teachers "spent an inordinate amount of time and money developing their own content and materials from scratch."[67]

**Conclusion:** There is no band-aid solution to teacher retention. Each school needs to evaluate its situation and come up with a holistic solution. As a minimum, any program designed to improve teacher retention should focus on providing special support to new teachers, improved compensation, and better administrative support. If we truly want today's children to receive the best education, we must take these steps now to ensure that our children are taught by competent and effective teachers.
--CAPT Mary Orban, US Navy

# Textbook Industry Profile

**Overview:** The US textbook industry has undergone steady consolidation. Over the past two decades and particularly over the past five years, larger publishing houses acquired several textbook publishers servicing the Kindergarten-12$^{th}$ grade (K-12) textbook market. Many large firms maintained the brand name of the firm purchased and incorporated it as a distinct division or branch. The basis for the mergers lies in high technology costs. Publishers have made significant investments in plans to use software and the Internet for teaching and testing. The mergers provide the necessary assets and conditions for continued growth and for financing these development costs. The top seven textbook

publishing firms now represent eighty percent of the textbook market.[1] During 2001-2002, US school systems purchased $4.3 billion worth of instructional materials (textbooks and supplements).[2] The supplemental market is the industry's fastest growing segment.

High market entry costs combined with the number of mergers and consolidations within the industry, have resulted in relatively few industry competitors. The four largest publishers are Houghton Mifflin, McGraw-Hill, Pearson, and Reed Elsevier.[3] Each firm has subsidiaries that specialize in K-12 education and an international presence. Pearson exemplifies the trend of major educational publishers to merge with other publishers and buy out smaller competitors. The most significant acquisition made by Pearson is the purchase of Simon and Schuster. Acquired from Viacom, Simon and Schuster had already acquired a dozen significant textbook publishers, and their purchase firmly established Pearson as one of the most important textbook publishers in the world.

**Industry Drivers:** Textbook publishers classify buyers into *open territory* and *state adoption* markets. Each requires publishers to implement a unique business strategy to satisfy purchaser requirements. For example, the type of market affects the publisher's location and staff size, sales strategy, product development process, cost structure, and the content of the products themselves. *Open territory markets*, the most prevalent category, consist of school districts and individual schools that decide when to adopt a new textbook program and what textbook to buy. There is no centralized state control over the process. Thirty states (primarily the Northeast and Great Plain states and the District of Columbia) are open territory markets. These districts and schools change or replace textbooks on average every 6-8 years and often cover all grade levels. Open territory markets offer one major benefit by allowing local districts and schools to control what textbooks to buy. Open territory states, however, provide substantial challenges to publishers. First, they require that publishers maintain large sales staffs to service the hundreds of districts and schools adopting different textbooks each year. Second, school districts often ask publishers to make substantive additions, changes, and deletions to their national edition textbooks to accommodate local views.

The twenty states (South and Midwest) that make up the *state adoption market* rely on centralized state-level processes for textbook adoption and funding versus districts and local schools that make those decisions in open territory markets. Once the State Adoption Committee has approved a list of textbooks and supplemental materials, it transfers funds to local schools to buy books from this pre-approved shortlist. Adoption states tend to renew their textbooks every 5-7 years. California, Texas and Florida are heavyweight adoption states, as they constitute thirty percent of the US K-12 market. States typically become adoption states for three reasons. First, such an approach more efficiently uses educational resources. The open territory market requires book adoption reviews at multiple locations within the state and involves hundreds of people. Adoption states only conduct state-level reviews and this minimizes human and financial costs of adoption decisions. Centralized adoption reviews also provide states with leverage over publishers as statewide textbook orders from the approved shortlist are potentially very significant. This leads to the second advantage for adoption states; namely their ability to secure more customized textbooks that, for example, are responsive to multicultural and local issues. This influence allows adoption states such as Texas, Florida, and California to negotiate textbook content. A third reason states opt for centralized textbook adoption is to ensure that textbooks are consistent with and include state-mandated standards that shape school curriculum.

**Industry Profile:** The "Big Four" publishers, who effectively control seventy percent of the K-12 market, follow in order of revenues generated: Pearson Education, McGraw-Hill Education, Reed Elsevier, and Houghton Mifflin. Until recently, three of these firms were foreign-owned. In 2001, French media conglomerate, Vivendi Universal, bought Houghton Mifflin. New York-based McGraw-

Hill, established in 1909, remains American-owned. British media giant, Pearson PLC, owns Pearson Education, and the Anglo-Dutch media company, Reed Elsevier Group PLC, acquired Harcourt in 2001. McGraw-Hill Education is the top content provider of the "Big Four" and the world's leader in producing Spanish language learning materials in support of the fastest growing minority population in the US. Houghton Mifflin, established in 1832, remains one of the oldest and last stand-alone educational publishers as the others are involved in many more publishing areas.

Competition remains keen in the K-12 textbook market where elementary/high school sales for 2002 were down five percent to $4.07 billion[4], while higher education sales increased 12.4 percent, with revenues of $3.90 billion. Association of American Publishers (AAP) data indicate that states spend up to 2.3 percent of their total education expenditures on textbooks. Their data show that on average, states spend "less than one penny on the dollar," or one percent on textbooks. It makes economic sense for publishers to target the winner take all large adoption states.

The amount of financial resources that major publishers can bring to the negotiation table is a significant advantage. Small, independent publishing companies often lack the resources required to engage in this high stakes environment where it can take two years from start to finish to conclude the textbook development and adoption process. There are significant cost factors and entry barriers that make it difficult for small publishing companies to compete against larger firms unless they can marshal resources to adequately support and sustain key operating components such as marketing and advertising, sales and service, and product specifications--areas of decided advantage for the large firms.

The textbook market has two segments: elementary and middle/high school markets. Fifty percent of the elementary market is composed of reading and language arts. Mathematics and a combination social sciences/science and health/music each constitute twenty-five percent of the market. In the middle/high school market, there is a more proportional split between six distinct segments: literature and English, science and health, math, social studies, foreign languages, and vocational/other.[5]

While the "Big Four" dominate the textbook market, room exists for entrants in the supplemental segment. In this area, the "Big Four" compete with companies such as WRC Media (Weekly Reader, AGS), Haights Cross, Delta Education, Cinar (Carson-Dellosa), and Hampton-Brown. The supplemental market offers opportunities for the independent, specialized and smaller companies to produce high quality materials with less upfront investment outlays. Scholastic Publishing has found a niche in the *intervention* market targeted at the high-risk student or the special education student. Saxon Publishers is a major educational publisher focused in disciplines such as math and science. The company develops and markets a K-12 mathematics series, a K- 2 phonics series, a physics text and a phonics program for older students who have difficulty reading and spelling. Saxon Publishers produce educational materials for public, private and charter schools and home schooled students.

Although the future of e-Learning is assured, some experts believe that the textbook industry is reluctant to promote e-Books. Notable exceptions include the distribution of supplementary software to accompany hardcopy textbooks and a partnership of three firms to develop the Electro-book Press, a digital printing press for printing textbooks. Reasons for lukewarm enthusiasm of e-Books relate to the shorter lifecycle of textbooks resulting in big financial gains to replace books. In addition, it takes time to train teachers how to use e-Books and there are issues of whether publishers or teachers should perform the training and who should pay for it. Finally, educators need to overcome a cultural bias towards a centuries-old learning method that relies on the hardcopy book for something new and as yet unproven.

**Industry Challenges and Issues:** Industry challenges and issues are numerous. State and local governments, parents, teachers, and national advisory groups have dramatically increased their involvement in textbook adoptions. The process is enriched but more complicated for publishers. Textbook costs increase and school textbook budgets steadily decrease. Publishers face legal requirement challenges such as textbook accessibility for all students including the handicapped. Laws and regulations governing this process by which publishers provide materials in Braille are often confusing, contradictory, and outdated. As the task of converting textbooks into specialized electronic formats is complex and time-consuming, the disabled often receive their books months late. Laws such as New York's Alternative Format Law are needed requiring school districts to have learning materials on hand in multiple formats of their choice prior to issuing new textbooks to students. Deliveries are made complicated by antiquated legislation requiring textbook delivery to centralized state school depositories. Publishers are now creating electronic books, supplemental learning materials, and computer software for direct dispatch to the requesting school.

Adoption state power forces publishers to create state-unique textbooks and supplemental teaching materials resulting in additional publisher editing and warehousing costs since many states now declare a maximum price they will pay for a given textbook. For many publishers, the only opportunity to recuperate costs is if the stylized textbook is attractive in the open territory market. Student book bags have increased in size and volume to accommodate the daily heavy, textbook loads that children carry to and from schools. Many rural and urban homes and schools still lack computers to eliminate the basic textbook and the costs to design and produce segmented textbooks is prohibitive. The scrutiny that textbooks receive from the myriad of reviewers in the adoption process often results in the detection of errors. Textbook content is subject to review by social scientists; conservatives, moderates, and liberals; religious factions; and parents who dissect every word and request changes. Publishers, intent on satisfying large adoption state customers, take appropriate action to ensure deals survive risking the compromise of authenticity and accuracy standards. In the past fifteen years, experts estimate that textbook reading level has dropped by two grade levels.[6] For example, third grade material is now fifth grade material. 'Dumbed-down' textbooks result in a poorly educated student population and endemic grade inflation that makes it harder for employers and universities to discriminate between the capable and less able. The demand for 'dumbed-down' books increases as many schools abandon grouping students according to abilities based on social equity rationale. Instead, schools indiscriminately mix in the same classrooms--students who vary widely in their talents, intellectual capabilities, and states of preparation.

--Lt Col Jerry David, US Air Force; Mr. Alan Davis, US Agency for International Development; COL Darryl Dean, US Army; LTC(P) Debbie Fix, US Army

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